

REMARKS

Claims 1, 2, 4-7, 9-13, 15-22 and 25-49 are pending in this application. By this Amendment, claims 1, 2, 4-7, 9-12, 15-17, 26, 27 and 29-32 are amended, claims 33-49 are added and claims 3, 8, 14, 23 and 24 are canceled. The claims are amended to more clearly distinguish over the applied references.

The Examiner is requested to consider the references submitted with the Information Disclosure Statement filed herewith.

Claims 1-18, 21-26 and 29-32 stand rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,335,787 to Nishi. This rejection is respectfully traversed.

Nishi discloses that concentration sensors for nitrogen gas are disposed in an illumination system, reticle stage system unit, a wafer stage system unit, and close to an inner exhaust port of a wafer transfer unit. However, Nishi does not disclose or suggest the various combinations of features recited in the independent claims of this application.

For example, Nishi does not disclose or suggest that allowable concentrations of absorption substance, which absorbs the exposure beam, in the plurality of the partial optical paths are respectively set depending on a length of each of the partial optical paths as recited in independent claims 1, 2, 9, 29 and 30. Thus, Nishi also does not disclose or suggest that concentrations of the absorption substance in the plurality of the partial optical paths are managed independently of each other in order for the concentrations of the absorption substance in the plurality of the partial optical paths to be respectively equal to or lower than the set allowable concentrations of the absorption substance in the plurality of the partial optical paths as also recited in independent claims 1, 2, 9, 29 and 30.

Nishi also does not disclose or suggest that allowable absorptances of the exposure beam are respectively set depending on a length of each of the partial optical paths, and concentrations of an absorption substance, which absorbs the exposure beam, in the plurality

of the partial optical paths are managed independently of each other in order for absorptances of the exposure beam in the plurality of the partial optical paths to be the set allowable absorptances in the plurality of the partial optical paths as recited in independent claims 6 and 31.

Nishi also fails to disclose or suggest that concentrations of the gas in the plurality of the partial optical paths are respectively set depending on a length of each of the partial optical paths, and concentrations of the absorption substance in the plurality of the partial optical paths are managed independently of each other in order for concentrations of the gas in the plurality of the partial optical paths to be the set concentrations of the gas in the plurality of the partial optical paths as recited in independent claims 7, 12 and 32.

Accordingly, withdrawal of the rejection based upon Nishi is requested.

Claims 19, 20, 27 and 28 stand rejected under 35 U.S.C. §103(a) over Nishi in view of U.S. Patent No. 5,559,584 to Miyaji et al.. Miyaji does not provide any of the deficiencies noted above with respect to Nishi. Accordingly, claims 19, 20, 27 and 28 are patentable for at least all of the reasons set forth above with respect to their corresponding independent claims 2 and 9. Withdrawal of the rejection is requested.

Claims 1-32 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,252,648 to Hase et al. in view of JP-A-9-162117 to Ozawa. This rejection is respectfully traversed.

Hase et al. discloses that an inert gas is supplied to an inner space 2j of a container 2g of an illuminating optical system, inner spaces of barrels 2h and 2i and a space defined by lenses in a lens barrel of a projecting lens. Ozawa discloses that oxygen concentration is lowest in a barrel 26 located nearest to an exposure light source 12 and oxygen concentration becomes gradually higher as a distance from the exposure light source increases.

However, as discussed above with respect to Nishi, neither Hase et al. nor Ozawa sets an allowable concentration of absorption substance, or an allowable absorptance of the

exposure beam, or concentrations of a gas, in a plurality of the partial optical paths depending on a length of each of the partial optical paths.

Thus, the combination of Hase et al. and Ozawa does not disclose or suggest that allowable concentrations of absorption substance in the plurality of the partial optical paths are respectively set depending on a length of each of the partial optical paths, and the concentrations of the absorption substance in the plurality of the partial optical paths are managed independently of each other in order for the concentrations of the absorption substance in the plurality of the partial optical paths to be respectively equal to or lower than the set allowable concentration in the plurality of the partial optical paths as recited in independent claims 1, 2, 9, 29 and 30. These references also do not disclose or suggest that allowable absorptances of the exposure beam are respectively set depending on a length of each of the partial optical paths, and concentrations of an absorption substance in the plurality of the partial optical paths are managed independently of each other in order for absorptances of the exposure beam in the plurality of the partial optical paths to be the set allowable absorptances in the plurality of the partial optical paths as recited in independent claims 6 and 31. The references also fail to disclose or suggest that concentrations of the gas in the plurality of the partial optical paths are respectively set depending on a length of each of the partial optical paths, and concentrations of the absorption substance in the plurality of the partial optical paths are managed independently of each other in order for concentrations of the gas in the plurality of the partial optical paths to be the set concentrations in the plurality of the partial optical paths, as recited in independent claims 7, 12 and 32.

Thus, withdrawal of the rejection based upon Hase et al. and Ozawa is requested.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' attorney undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Information Disclosure Statement
Amendment Transmittal
Petition for Extension of Time

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